



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,251	04/19/2004	Noboru Fujiwara	09141.0005	9412

22852 7590 02/17/2006

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

BOES, TERENCE

ART UNIT PAPER NUMBER

3682

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/826,251

Applicant(s)

FUJIWARA ET AL.

Examiner

Terence Boes

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/04/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-4-05 (2 Sheets).
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - Paragraph [0002] lines 11-16 states "A good operation feeling (characteristic of an operational input force to a generated brake force) to a generated brake force is obtained due to an existence of a variable output mechanism, and a depressing force which is an operational input force is detected with a load sensor, where an operating pedal is provided as a brake operating member." This appears to be a run on sentence and is difficult to understand.
 - Paragraph [0004] line 2 states "...through such as a master cylinder...". The examiner recommends adding the word [means] after "such".
 - Paragraph [0004] line 12 states "...of vehicle brake apparatuses". The examiner recommends adding the word [the] after "of".
 - Paragraph [0004] line 14 states "...which causing a problem...". The examiner recommends changing the word "causing" to [causes].
 - In paragraph [0026] line 5, the examiner recommends changing the word "with" to [within] for clarity.
 - In paragraph [0027] line 10, the examiner recommends replacing the word "the" with [to] for clarity.

The specification is replete with grammatical errors to numerous to point out in their entirety. The above are a few examples. Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “electric control unit” of claims 3,4 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Pluta et al USP 5563355. Pluta et al discloses:

- A brake operating member (101)
- A variable output mechanism (101,105,106) disposed between the brake operating member and an output member (105)

Examiners note: the phrase “for mechanically changing a multiplying ratio of an output force in relation to an operational input force from the brake operating member in accordance with an operating stroke of the brake operating member” is given no patentable weight as the phrase pertains to the function rather than the structure of the invention.

- A brake controlling unit (109) operated in accordance with the output force applied to output member (105)
- A load sensor (110; C4/L42+)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 3682

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,2, are rejected under 35 U.S.C. 103(a) as being unpatentable over

Masaharu (Japanese publication # 2003-312457) in view of Pluta discussed above.

Masaharu discloses:

- A brake operating member (2)
- A variable output mechanism (9,12,15) disposed between the brake operating member (2) and an output member (11b)
- A brake controlling unit (11a) operated in accordance with the output force applied to output member (11b)
- An intermediate connecting member (15) pivotable about a second axis (15) perpendicular to operational plane of brake operating member (2)
- Supporting member (1) fixed on a vehicle body
- First lever integral (12a) with intermediate connecting member (15), connected with brake operating member (2) and pivotable about the second axis (15) together with the intermediate connecting member (15)
- Second lever (12b) integral with intermediate connecting member (15) such that second lever (12b) is apart from first lever (12a) in the axial direction of second axis (15) and is connected with output member (11b)

Masaharu fails to disclose:

- Load sensor between the variable output mechanism and the output member.

Pluta, teaches the use of a load sensor (110) for the purpose of obtaining a measurement of the force applied to the master cylinder and generating an output signal indicative of that force which may be used in another system, such as an electric braking system for a trailer (C1/L34-39).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of a load sensor as taught by Pluta on the apparatus disclosed by Masaharu, for the purpose of obtaining a measurement of the force applied to the master cylinder and generating an output signal indicative of that force which may be used in another system, such as an electric braking system for a trailer.

5. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pluta as applied to claim 1 above, and further in view of Poertzgen (EP 0 768 224 A1).

Regarding claim 3, Pluta fails to disclose:

- A brake controlling unit capable of controlling the brake force electrically
- A reaction force unit for applying a reaction force to the output member
- An electric control unit for controlling the brake force of the brake controlling unit electrically based on the output force value of the load sensor.

Regarding claim 3, Poertzgen teaches a brake controlling (48) unit capable of controlling the brake force electrically to provide an actuation means for an electronically controlled brake system with high reliability (C1/L54-56).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of the brake controlling unit as taught by Poertzgen on the apparatus disclosed by Pluta to provide an actuation means for an electronically controlled brake system with high reliability.

Regarding claim 3, Poertzgen teaches a reaction force unit (40) for applying a reaction force to the output member to resiliently bias the brake pedal against an actuation direction of the brake pedal (C1/L10-12).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of the reaction force unit as taught by Poertzgen on the apparatus disclosed by Pluta to resiliently bias the brake pedal against an actuation direction of the brake pedal.

Regarding claim 3, Poertzgen teaches an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output force value of the load sensor (c1/l 17-24) to process brake sensor signals (C2/L3,4).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of the electric control unit as taught by Poertzgen to process brake sensor signals.

Regarding claim 4, Pluta fails to disclose:

- A stroke sensor for detecting the operating stroke of the brake operating member, wherein the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor.

Poertzgen teaches a stroke sensor (36) for detecting the operating stroke of the brake operating member (28), wherein the electric control unit (see C1/L19,20) controls the brake force of the brake controlling unit (48) based on detected values of both the load sensor (42) and the stroke sensor (36) to recognize any malfunction of the actuation means and especially of the spring means (40) by verifying the consistency of the two sensed dimensions (C2/L7-13).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed a stroke sensor for detecting the operating stroke of the brake operating member, wherein the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor, as taught by Poertzgen, to recognize any malfunction of the actuation means and especially of the spring means by verifying the consistency of the two sensed dimensions.

Regarding claim 5, Pluta further discloses:

- The brake operating member (101) disposed on the supporting member (103) fixed on the vehicle body (107) such that the brake operating member (101) is pivotable about the specified first axis (174).

Pluta fails to disclose:

- Stroke sensor disposed on the supporting member coaxial with the first axis for detecting the amount of pivotal movement of the brake operating member.

Poertzgen teaches a Stroke sensor (36) disposed on the supporting member (38) coaxial with the first axis (34) for detecting the amount of pivotal movement of the brake operating member (28) to provide a cost effective and very reliable rotational sensor (C2/L22-23).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of a stroke sensor disposed on the supporting member coaxial with the first axis for detecting the amount of pivotal movement of the brake operating member, as taught by Poertzen, to provide a cost effective and very reliable rotational sensor.

Conclusion

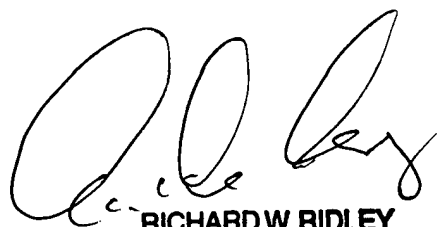
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terence Boes whose telephone number is (571) 272-4898. The examiner can normally be reached on Monday - Friday 9:00 AM - 4:00 PM.

Art Unit: 3682

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Terence Boes
February 10, 2006



RICHARD W. RIDLEY
PRIMARY EXAMINER
SPE Au 3682